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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/593,095 01/29/96 BIEMAN

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EXAMINER

PHAM, H

ART UNIT

PAPER NUMBER

25M1/0813

DAVID R SYROWIK
BROOKS & KUSHMAN PC
1000 TOWN CENTER
22ND FLOOR
SOUTHFIELD MI 48075

2505

DATE MAILED:

08/13/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION1. ☒ Claims 1-27 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.3. ☐ Claims _____ are allowed.4. ☒ Claims 1-27 are rejected.5. ☐ Claims _____ are objected to.6. ☐ Claims _____ are subject to restriction or election requirement.7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.8. ☐ Formal drawings are required in response to this Office action.9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.14. ☐ Other**EXAMINER'S ACTION**

Part III DETAILED ACTION

Drawings

1. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "object is moving in a direction substantially ^{parallel} perpendicular to the detector and optical axis" in claims ⁹ 6 and ²² 19; the "two projectors" in claims 10-12 and 23-25 must be shown or the feature cancelled from the claim. No new matter should be entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-27 are rejected under 35 U.S.C. § 103 as being unpatentable over Kuchel (5,135,308) in view of Bullock et al (5,488,478).

Kuchel discloses a method and apparatus for non-contact measuring of object surface in which the gratings (G1 and G2) are moving and the measured object is fixed. Kuchel does not teach the step of moving the object relative to the at least one projector at the vision station to scan the projected pattern of electromagnetic radiation across a surface of the object; however, such a feature is known in the art, for example as taught by Bullock et al. Bullock et al, in the same field of endeavor, discloses a method and apparatus for measuring the shape of a surface of an object in which the steel strip 1 is moving in direction A over support surface 2, an array of line-scan cameras (5) positioned to view and record the light patterns and to process in parallel data representative of the recorded light patterns to provide a measure of the shape of the object surface (figures 1-3). Those of ordinary skill in the art at the time the invention was made would have found it obvious to move the object taught by Bullock et al instead of moving the grating because they would function in the same manner. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zeien (5,471,308) discloses a phase shifting device.

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Free (3,814,521) discloses an apparatus and method for recognition of three-dimensional objects.


Johnson et al (3,762,818) discloses a contour measurement apparatus.

Kyle (3,614,237) discloses a method and apparatus for contour measurement.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Hoa Pham whose telephone number is (703) 308-4808. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Pham/hp
August 08, 1996


**HOA Q. PHAM
PATENT EXAMINER
GROUP 2500**